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ABSTRACT

Two instances of unaccusative verb mismatches in Japanese are examined. An unaccusative mismatch is the situation in which a different accusative diagnostic singles out different classes of intransitive verbs within and across languages. One type of unaccusative mismatch has to do with group C verbs, or verbs of manner with protagonist control. When these verbs occur with a goals phrase that allows the verb to express inherent direction of motion, they can appear in the unaccusative syntactic configuration. The other instance occurs in the "TE ARU" construction within group A verbs. However, this kind of mismatch can be attributed to different representation in lexical conceptual structure. It is further observed that group A and group B verbs, both of which are unaccusative, are basically rejected in the construction because the agentive interpretation is suppressed within these verbs. It is concluded that inherent direction and lack of protagonist control are significant properties that point toward characterization of unaccusativity. (Contains 19 references.) (MSE)

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UNACCUSATIVE MISMATCHES IN JAPANESE³

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0. Introduction

The focus of one of the most common disputes regarding unaccusativity is on the question of whether unaccusativity should have its foundation in syntax or in semantics. The former position has been defended by Rosen (1984), who claims that a semantically coherent group of verbs exhibit syntactically different behavior within and across languages and thus the semantic approach should be abandoned. The syntactic encoding of unaccusative verbs is further elaborated in the Government and Binding framework (Burzio (1986)). (1) contrasts the difference in the syntactic encoding between unergatives and unaccusatives.

- (1) a. Unergative: [s NP [vp V]]
b. Unaccusative: [s — [vp V NP]]

By contrast, such a syntactic approach has been refuted by Van Valin (1987), Napoli (1988), and Zaenen (1987), among others.

Despite the progress made from both a syntactic approach and a semantic approach, the question of what makes a verb unaccusative is yet to be answered.¹ Recently, however, there have been some attempts to explore the defining properties of unaccusativity. Levin & Rappaport (1989), for one, take the position that unaccusativity is syntactically represented but semantically determined. The syntactic encoding such as in (1) should be maintained because unaccusative verbs and passives exhibit a similar set of behavior in unaccusative diagnostics, and yet they do not share anything common semantically. The syntactic representation, then, would be the only mechanism to bridge this gap. On the other hand, the semantic determination of unaccusatives should not be ignored especially when we take language acquisition issues into consideration. For these reasons, Levin & Rappaport claim that syntactic representation and semantic determination should go side by side.

Under such a hypothesis Levin & Rappaport investigate the semantic properties which would lead to the determination of the unaccusativity by looking at unaccusative mismatches. By unaccusative mismatches, it is meant that "the situation in which different unaccusative diagnostic singles out different classes of intransitive verbs within and across languages" (Levin & Rappaport (1989:2)). Unaccusative mismatches are particularly interesting in that they contribute in capturing crucial semantic differences when different diagnostics pick out (what seem to be) semantically incoherent groups of verbs. That is, identifying what is semantically common among the verbs that are singled out by the diagnostic would lead to a true characterization of

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unaccusativity. After surveying verbs of motion in English, Levin & Rappaport claim that the two generalizations in (2) are relevant (at least to verbs of motion).

- (2) Generalization 1: Verbs whose meaning includes a specification of inherent direction are found in the unaccusative syntactic configuration.

Generalization 2: If the meaning of the verb specifies a direct external cause, then the verb is unaccusative, and otherwise it is unergative.

In this paper I will examine two instances of unaccusative mismatches in Japanese, and will investigate the cross-linguistic relevance of the two generalizations in (2) on the basis of the Japanese data.

1. Numeral Quantifiers as a Diagnostic Test

In order to maintain the position that unaccusatives are syntactically represented but semantically determined, it is necessary to isolate diagnostic tests for unaccusativity in Japanese. There have been various syntactic tests for unaccusativity in Japanese, but in this paper I will focus on the Numeral Quantifier (NQ) test proposed by Miyagawa (1989a,b).² When objects or persons are counted, classifiers are necessarily suffixed to the numerals in Japanese. The classifiers that accompany Numeral Quantifiers vary depending on the characteristics of what is counted. For example, -nin is used in counting human beings and -hon/bon/pon is used when long and cylindrical objects are counted, as in (3-4).

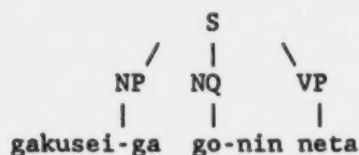
- (3) Gakusei-ga go-nin kita
students-Nom five-cl came
'Five students came'

- (4) John-ga pen-o san-bon katta
John-Nom pen-Acc three-cl bought
'John bought three pens'

Miyagawa claims that a noun and its Numeral Quantifier (NQ) must be in a mutual c-command relationship. This constraint can be observed in the contrast between (5) and (6), each of which is accompanied by the hierarchical structure.

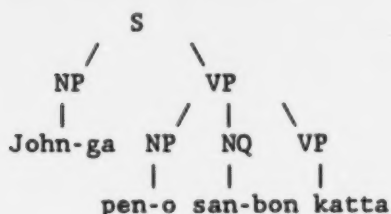
- (5) a. Gakusei-ga go-nin neta
student-Nom five-cl slept
'Five students slept'

a'.



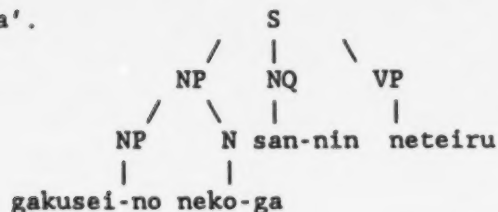
- b. John-ga pen-o san-bon katta
 John-Nom pen-Acc three-cl bought
 'John bought three pens'

b'.



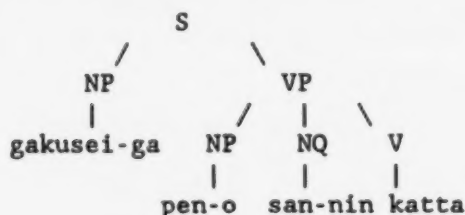
- (6) a. *Gakusei-no neko-ga san-nin neteiru
 student-Gen cat-Nom three-cl sleeping
 'Three students' cats are sleeping'

a'.



- b. *Gakusei-ga pen-o san-nin katta
 student-Nom pen-Acc three-cl bought
 'Three students bought pens'

b'.



In (5), the NQ and the noun of which the NQ is predicated are in a mutual c-command relation: In (5a), the NQ is predicated of the subject while the NQ is predicated of the object in (5b), and the mutual c-command holds between the NQ and the subject in (5a') and between the NQ and the object in (5b'). Such a mutual c-command relation is not observed in (6) between the specifier of the subject (i.e., *gakusei* 'student') and the NQ (i.e., *san-nin* 'three people') in (6a') and between the subject (i.e., *gakusei*) and the NQ (i.e., *san-nin*) in (6b'). Rather, what the

structural configuration suggests is that the NQ in (6a') would be predicated of the head noun of the subject NP, i.e., neko 'cat', and that the NQ in (6b') would be interpreted with the object pen 'pen'. Thus, the intended reading fails to be obtained.

Given the constraint on NQ, the sentence in (7) is predicted to be ungrammatical.

- (7) Doa-ga [vp kono kagi de huta-tu aita]
 door-Nom this key with two-cl opened
 'Two doors opened with this key'

The subject doa c-commands the NQ expression huta-tu, but the NQ does not c-command the subject because it is within the VP. Contrary to the prediction, the sentence is grammatical. Miyagawa explains this discrepancy as follows: The verb aku is unaccusative, and the subject doa is in the object position at d-structure. For case theoretic reasons (Burzio (1986)), the underlying object must move to the subject position. Since the trace of the surface subject stays within VP, maintaining a mutual c-command relation with the NQ, the sentence is grammatical. For the rest of this paper, I will assume that NQ's serve as a reliable diagnostic test for unaccusativity in Japanese.

2. Unaccusative Mismatches in Japanese

Levin & Rappaport discuss the relevance of unaccusative mismatches to the study of unaccusativity. In looking at verbs of motion, Levin & Rappaport divide intransitive verbs into three classes: (i) arrive class, (ii) roll class, and (iii) run class. The membership of each class is illustrated in (8).

- (8) a. arrive class: arrive, come, go, depart, fall, return, descend
 b. roll class: roll, slide, move, swing, spin rotate
 c. run class: run, walk, gallop, jump, hop, skip, swim

They further capture semantic properties inherent to each group. The summary of their observations is in (9).

- (9) a. arrive class: direction
 b. roll class: manner, no protagonist control
 c. run class: manner, protagonist control

Given the classification along with the semantic characterization of each class, they propose the two generalizations in (2). These generalizations predict that the arrive class is unaccusative, the roll class is usually unaccusative, and the run class is usually unergative.

In order to see whether such a correlation can be observed in Japanese, we first classify the verbs of motion in Japanese according to the criteria in (10).

(10) A: verbs with inherent direction

tuku	'arrive'
iku	'go'
kuru	'come'
agaru	'rise'
otiru	'fall'
kaeru	'return'
tatu	'depart'

B: verbs of manner, with no protagonist control

korogaru	'roll'
hazumu	'bounce'
suberu	'slide'
ukabu	'float'

C: verbs of manner, with protagonist control

hasiru	'run'
hau	'crawl'
haneru	'jump'
oyogu	'swim'
tobu	'fly'
suberu	'slide'

The verbs belonging to group A all imply inherent direction, and some of them, such as tuku 'arrive', otiru 'fall', and kaeru 'return' have an inherent endpoint. The group B and group C verbs express manner of motion, but they differ with respect to the presence or absence of protagonist control over the action denoted by the verb.

The application of a syntactic diagnostic test of NQ to verbs in each class demonstrates that the grouping in (10) corresponds to (8) in English in regard to the type of verbs. Thus, the type A and type B verbs are unaccusative while the type C verbs are unergative. This is evidenced by a syntactic diagnostic test of NQ, as is shown in (11-13).

(11) Group A

Gakusei-ga osoku san-nin tuita
 student-Nom late three-cl arrived
 'Three students arrived late'

(12) Group B

Booru-ga kaze-de mit-tu korogatta

ball-Nom wind-by three-cl rolled
 'Three balls rolled because of the wind'

(13) Group C

- a. ?*Gakusei-ga kodomo-to san-nin hasitta
 student-Nom children-with three-cl ran
 'Three students ran with the children'
- b. ?*Gakusei-ga kodomo-to inukaki-de san-nin
 student-Nom children-with dog paddling-by three-cl
 oyoida
 swam
 'Three students swam with children by dog paddling'

Osoku 'late' in (11) and kaze-de 'by wind (because of the wind)' in (12) are both VP-internal adverbs and thus the NQ's are also internal to the VP. Then, the subject of each sentence gakusei 'students' and booru 'ball' is not in a mutual c-command relation with its NQ. However, the sentences are fine with the intended interpretations. Thus, the subjects of these sentences must have moved from the d-structure object position with which the NQ's can maintain a mutual c-command relation. Therefore, the NQ test suggests that the verbs in (11) and (12) appear in the unaccusative syntactic configuration. The structural configurations in (13) at s-structure are the same as those in (11-12). The ungrammaticality, then, suggests that the verbs in (13) are unergative.

Given that the group C verbs are unergative, they should generate ungrammatical sentences when a VP-internal NQ is predicated of the subject, as is demonstrated in (13). Contrary to this prediction, there are cases in which such an illicit mutual c-command relation is allowed with the group C verbs. Consider the examples in (14).

- (14) a. Gakusei-ga kisi-made inukaki-de san-nin
 student-Nom shore-as far as dog paddling-by three-cl
 oyoida
 swam
 'Three students swam to the shore by dog paddling'
- b. Gakusei-ga kooen-made san-nin hasitta
 student-Nom park-as far as three-cl ran
 'Three students ran to the park'

Since oyogu 'swim' and hasiru 'run' are unergative, the VP-internal NQ's should not be able to be predicated of the subject, but, in fact, they are. What is crucially different in (14) from (13) is that in (14) both sentences have a goal phrase, which adds a specification of inherent direction as well as an endpoint to the original meaning of the verb and makes the verb function

like a group A verb. The syntactic test of NQ clearly shows that the verbs in (14) are actually unaccusative. The subjects of the sentences in (14) are both predicated of the VP-internal NQ's. Recall that this type of configuration is possible only when the verbs are unaccusative, as we have observed in (11-13). This provides strong evidence that the generalization 1 in (2) is relevant to Japanese as well as that the notion of inherent direction may crucially characterize unaccusatives.

In this event, it is interesting to take a closer look at possible goal phrases in Japanese. There are basically three postpositions which may indicate goal when they cooccur with a noun. The postpositions are -ni, -e, and -made, examples of which are illustrated in (15-17).

- (15) John-ga uti-ni kaetta
 John-Nom home-to return
 'John returned home'
- (16) Mary-ga watasi-no heya-e tazunete-kita
 Mary-Nom I-Gen room-to visit-came
 'Mary visited my room'
- (17) Taro-ga gakkoo-made zitensya-de kita
 Taro-Nom school-as far as bicycle-by came
 'Taro came to school by bicycle'

L. Levin et al. (1988) analyze phrases such as uti-ni 'to(ward) home' in (15) as goal phrase, and concluded that unergatives such as oyogu 'swim' with a N-ni phrase, as in (18), cannot be saved unless the verb is changed to a compound verb like (19), and that the combination of manner and directed motion often requires the morphological compounding, as (19) suggests.

- (18) *Kisi-ni oyoida
 shore-to swam
 '(I) swam to the shore'
- (19) Kisi-ni oyoide-itta
 shore-to swim-went
 '(I) swam to the shore'

Contrary to their conclusion, I claim the two postpositions ni and e on the one hand, and made, on the other, are slightly different. According to Jorden (1987), ni indicates that the motion denoted by the verb moves to or into or onto a location while made implies the motion moves to and including a location but not beyond. Thus, made marks the endpoint of the motion much more clearly than ni. In order to change the status of verb from unergative to unaccusative, a simple specification of direction does not always seem to be sufficient, and, in such a case, the notion of the final limit must necessarily be added to a verb as

clearly as possible. Or, the suffixation of the unaccusative iku 'go' to the unergative oyogu 'swim' as in (19) also makes the complex verb function as an unaccusative verb because iku, as an unaccusative verb itself, includes a specification of inherent direction in its meaning. The syntactic test of NQ shows the complex verb, in fact, appears in the unaccusative configuration, as is shown in (20).

- (20) Gakusei-ga kisi-ni san-nin oyoide-itta
 student-Nom shore-to three-cl swim-went
 'Three students swam to the shore'

The change observed in the group C verbs from unergative to unaccusative further supports the basic idea of lexical decomposition, which was originally observed by Talmy (1975, 1985) and was later formalized as 'lexical subordination' by Levin & Rapoport (1988). In English, the verb float in The bottle floated into the cave has two meanings: one is manner of motion and the other is directed motion. Levin & Rapoport claim that the latter meaning is derived by the operation called 'lexical subordination'. The effect of this operation can be seen in the lexical structure of the verb float, as in (21).

- (21) a. float: [x MOVE in-a-floating manner]
 b. float: [x GO TO y BY [x MOVE in-a-floating manner]]

The structure of (21b) is derived by the application of the lexical subordination to (21a). Such a lexical operation is thus attested in Japanese, given the change of the verb oyogu 'swim', for example, from unergative to unaccusative. Following their representations, then, the two instances of the verb oyogu 'swim' can be expressed as in (22).

- (22) a. oyogu: [x MOVE in-a-swimming manner]
 b. oyogu: [x GO TO y BY [x MOVE in-a-swimming manner]]

The structure in (22a) corresponds to the verb in (13b), where the verb simply expresses manner of motion whereas (22b) represents the lexical structure of the verb in (14a), where the verb expresses both manner of motion and inherent direction (or, more precisely, inherent direction with a specific endpoint).

The unaccusative mismatch observed in the group C verbs is what we expect given that the generalization 1 holds for Japanese verbs of motion. Furthermore, the discussion on the contrast between (14a) and (18) suggests that a strong specification of the endpoint of the motion is sometimes required for an unergative manner of motion verbs to appear in the unaccusative configuration. Thus, the notion of inherent direction as well as delimitedness, in the sense of Tenny (1987), plays a significant role in capturing the nature of unaccusativity.

Another instance of unaccusative mismatches can be seen in the so-called -TE ARU construction. Shigeru Miyagawa (personal communication) informs me that the -TE ARU construction can be considered as a diagnostic test for unaccusativity. The -TE ARU construction is formed by suffixing ARU to the gerund form of a verb, and it refers to the state which is a result of the action denoted by the verb to which ARU is suffixed. The sentences in (23) and (24) are examples of this construction.

- (23) Mado-ga ake-te aru
window-Nom open
'The windows have been opened'

- (24) Kabin-ga kowasi-te aru
vase-Nom break
'The vase has been broken'

(23), for example, describes the state where the windows are open as a result of someone's having opened them, and (24) means that someone broke the vase, and, as a result, the vase is in the state of being broken. Notice that the verbs with which the -TE ARU construction is formed are transitive verbs. Miyagawa observes that -TE ARU can cooccur only with transitive verbs such as in (23-24) and unergative verbs like asobu 'play', but not with unaccusatives. One of the characteristics which are inherent to this construction is that the agent of the action is implied although it is unknown or its mentioning is avoided (Martin (1987)). Thus, it can be concluded that the -TE ARU construction requires protagonist control to be specified in the sentence. It follows, then, that the group B verbs do not appear with the -TE ARU construction since, by definition, they lack protagonist control. The constraints on the construction also explain why -TE ARU cannot be formed with some unaccusative verbs which express change of state such as kareru 'wither', kooru 'freeze', and hieru 'get cold'. These verbs never imply protagonist control because the change of state described by the verb happens outside human control.

Judging from the behavior of group B, we might want to conclude that lack of protagonist control is a property of unaccusatives. Before we reach the conclusion, however, there are two questions to be answered with respect to group A, since the group A verbs are also categorized as unaccusative but their behavior within the -TE ARU construction has not been fully investigated. First, the subjects of the verbs of this class are not always agentive, in which case a violation should result, given our assumptions. This prediction is borne out, as we can see in (25).

- (25) a. *Kozutumi-ga kite-arū kara tori-ni kite-kudasai
parcel-Nom come because take-to come-please
'A parcel has come, so please come to pick it up'

- b. *Sensei-kara-no tegami-ga tuite-arimasu
 teacher-from-Gen letter-Nom arrive
 'A letter from my teacher has arrived'

Neither a parcel nor a letter from a teacher can control the action denoted by the verb, and the sentences are judged ungrammatical.

The second question is how the group A verbs, when they are interpreted as agentive, behave in the -TE ARU construction. When the verbs in group A are agentive, the degree of their ungrammaticality should not be as bad as with the group B verbs or as bad as (25) since the presence of agency is a necessary condition for the construction. The situation does not seem to be so straightforward, however, as the group A verbs appear to be divided into two slightly different classes. Verbs such as iku 'go', kuru 'come', and agaru 'go up' become better especially when a delimiting phrase is supplemented. By contrast, verbs like tuku 'arrive', kaeru 'return', and otiru 'fall' still resist the cooccurrence with -TE ARU even with a delimiting expression. The contrast can be illustrated in (26) and (27).

- (26) a. ?Koko-made kite-aru kara sukosi
 here-as far as come because little
 yasumimasyoo
 let's rest
 'Since we have come thus far, let's rest a little while'
- b. ?Otoko-tati-ga sanbyaku-meetoru-no tokoro-made
 man-pl-Nom three hundred-meters-Gen place-as far as
 agatte-aru kara daizyobu-desu
 go up because all right-be
 'Since the men have gone up as far as three hundred meters, it is/we are all right'
- (27) a. *Ryokookyaku-ga Tokyo-ni tuite-aru kara watasitati-wa
 travellers-Nom Tokyo-at arrive because we-Top
 kaerimasu
 go home
 'Since the travellers have arrived at Tokyo, we are going home'
- b. *Taroo-wa uti-ni kaette-aru kara denwa-o
 Taroo-Top home-to return because telephone-Acc
 sitemiyoo
 let's try doing
 'Taro is home, so let's try calling him'

Why are the verbs belonging to the unaccusative class with the same semantic characteristics behaving so contrastively? This issue might be related to the distinction between Lexical

Conceptual Structure, advanced by Hale & Keyser (1986, 1987), and Predicate Argument Structure. The former is the conceptual representation of a verb, which encodes the lexical-semantic properties of a verb whereas the latter is the representation which is relevant to syntactic realization of the verb's argument. Given such Lexical Conceptual Structure and Predicate Argument Structure, we might want to say that the two types are similar in that agent does not appear in Argument Structure, but they differ in that only agent of kuru-type can appear in Lexical Conceptual Structure, and it is this agent in the Lexical Conceptual Structure that the -TE ARU construction may refer to.

Despite this slightly murky distinction among the group A verbs, the contrast between group A and group C is clear in regard to protagonist control and its repercussion to the -TE ARU construction. That is, without any goal phrases the most simple -TE ARU constructions using these verbs demonstrate that the group C verbs are much more accessible to the -TE ARU construction. Thus, *kite-aru 'I have come' and *tuite-aru 'I have arrived' are much worse than aruite-aru 'I have walked' and oyoide-aru 'I have swum'. Hence, I believe that the contrast under discussion is attributed to the fact that in the group C verbs protagonist control exist while in the group A verbs protagonist control is suppressed or missing at least in the representation relevant to syntax.³

3. Conclusion

In this paper I have shown two instances of unaccusative mismatches. One has to do with the group C verbs, i.e., verbs of manner with protagonist control. When they occur with a goal phrase which allows the verb to express inherent direction of the motion, they can appear in the unaccusative syntactic configuration. The specification of the endpoint is sometimes required especially when the status change happens from unergative to unaccusative. The other instance was seen in the -TE ARU construction within the group A verbs. This type of mismatch, however, can be attributed to the different representation in Lexical Conceptual Structure. It was further observed that group A and group B verbs, both of which are unaccusatives, are basically rejected in the construction because the agentive interpretation is suppressed with these verbs. We, thus, concluded that inherent direction and lack of protagonist control (which may exist conceptually) are two significant properties which point toward the characterization of unaccusativity.

FOOTNOTES

*I would like to thank Beth Levin for her comments on an earlier version of this paper.

1. This question is raised in Grimshaw (1987).

2. Other unaccusative diagnostics such as the resultative construction are discussed in Miyagawa (1989b) and Tsujimura (to appear).

3. I have discussed earlier in this section that unergative verbs such as oyogu 'swim' can appear in the unaccusative configuration when a goal phrase is supplemented as in (14). Then we would predict that sentences such as (14) should not be able to appear in the -TE ARU construction, if the -TE ARU construction is a legitimate diagnostic test for unaccusativity. Contrary to this prediction, the sentence is not as bad as we expect.

- (1) ?Gakusei-ga moo kisi-made oyoide aru kara
 students-Nom already shore-as far as swim because
 daizyoobu-desu
 all right-be
 'Since the students have already swum to the shore, it's all right'

The acceptability of this sentence is likely to be attributed to the presence of protagonist control inherent to the verb oyogu 'swim'. We can thus conclude that -TE ARU is not a reliable test for unaccusativity, but is simply sensitive to the presence/absence of protagonist control, just like the impersonal passive construction that Zaenen (1987) discusses for Dutch. For more detailed discussion, see Tsujimura (1989).

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